**PCT**

RAW SEQUENCE LISTING          DATE: 03/27/2003
PATENT APPLICATION:  **US/09/914,006D**          TIME: 12:10:04

Input Set : **A:\914,006sl.txt**
Output Set: **N:\CRF4\03272003\I914006D.raw**

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 3 <110> APPLICANT: Eggeling, Lothar
 4        Sahm, Hermann
 6 <120> TITLE OF INVENTION: METHOD FOR MICROBIALLY PRODUCING L-VALINE
 8 <130> FILE REFERENCE: 5899*13
10 <140> CURRENT APPLICATION NUMBER: 09/914006D
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**C-->  11 <141> CURRENT FILING DATE: 2003-08-21**
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13 <150> PRIOR APPLICATION NUMBER: PCT/EP00/01405
14 <151> PRIOR FILING DATE: 2000-02-21
16 <160> NUMBER OF SEQ ID NOS: 7
18 <170> SOFTWARE: PatentIn version 3.1
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 2952
22 <212> TYPE: DNA
23 <213> ORGANISM: Corynebacterium glutamicum
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30 ctgaaacctc acatcgtgat aaccctgcgt cacagcacta gagtgtaata agccgtccga    180
32 accaaaggtc cacacctctg cacgagtaga agctcaccca agttttcaaa gtgccgttga    240
34 ttcttgacaa ccacccgccg ctctttagag cagatttgaa aagcgcatca tgatcccact    300
36 tcgttcaaaa gtcaccaccg tcggtcgcaa tgcagctggc gctcgcgccc tttggcgtgc    360
38 caccggcacc aaggaaaatg agttcggcaa gccaattgtt gccatcgtaa actcctacac    420
40 ccagttcgtg cccggacacg ttcaccttaa gaacgtcggc gatattgtgg cagatgcagt    480
42 gcgcaaagcc ggtggcgttc caaaggaatt caacaccatc gtcgatgacg gcatcgccat    540
44 gggacacggc ggcatgctgt actccctgcc atcccgtgaa atcatcgccg actccgtcga    600
46 atacatggtc aacgcacaca ccgccgacgc catggtgtgt atctccaact gtgacaagat    660
48 cacccccaggc atgctcaacg cagcaatgcg cctgaacatc ccagtggtct tcgtttccgg    720
50 tggcccaatg gaagctggca aggctgtcgt cgttgagcgc gttgcacacg caccaaccga    780
52 cctcatcacc gcgatctccg catccgcaag cgatgcagtc gacgacgcag gccttgcagc    840
54 cgttgaacga tccgcatgcc caacctgtgg ctcctgctcc ggtatgttca ccgcgaactc    900
56 catgaactgc ctcaccgaag ctctgggact ttctctcccg ggcaacggct ccactctggc    960
58 aacccacgca gcacgtcgcg cactgtttga aaaggccggc gaaaccgtcg ttgaactgtg   1020
60 ccgccgctac tacggtgaag aagacgaatc cgttctgcca cgtggcattg ccaccaagaa   1080
62 ggcattcgaa aacgcaatgg cactggatat ggccatgggt ggatccacca acaccatcct   1140
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68 agacgtccac cgcgccggtc gcattccagc actgctcggc gagctcaacc gcggtggcct   1320
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74 tggcatccgc accaccgaag cattctccac cgagaaccgc tgggacgaac tcgacaccga   1500
76 cgctgccaag ggctgcatcc gcgacgttga acacgcctac accgccgacg cggcctggt   1560
78 tgttcttcgc ggcaacatct cccctgacgg cgcagtgatc aagtccgcag gtatcgaaga   1620
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 86 cctgggcaag aagtgtgcac tgatcaccga cggccgtttc tccggaggtt cctcaggact   1860
 88 gtccatcggc acgtctccc cagaagcagc acacggcgga gtcattggtc tgatcgaaaa   1920
 90 cggcgacatc gtctccatcg acgttcacaa ccgcaagctc gaagttcagg tctccgacga   1980
 92 ggaactccag cgccgccgcg acgctatgaa cgcctccgag aagccatggc agccagtcaa   2040
 94 ccgtaaccgc gttgtcacca aggcactgcg cgcatacgca aagatggcta cctccgctga   2100
 96 taaggggtgca gtccgtcagg tcgactaacc ctttgtgagt gtttgagcac cggttcccta   2160
 98 ctttgggttc cggtgctttt tcatgtcttg gcctgtgtgg gcgtggtgga gctccccgtt   2220
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114 accagtggac gctttgccca acctcggcca gagtcaaggg aaatcttgcc ggggccggtg   2700
116 aactgaagtc cgacaaccac gatagtgagg atcagtgcca gcatcaatgg ctcactaagt   2760
118 tcaccccaac caccttcatg agtgttgact tggtgaaggg tggtaaagga tgtcgccacc   2820
120 gtggctaccg ctgctgccac tggggtcatc agaccaagga gcaggaagac accagccgca   2880
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128 <211> LENGTH: 612
129 <212> TYPE: PRT
130 <213> ORGANISM: Corynebacterium glutamicum
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138 Gly Ala Arg Ala Leu Trp Arg Ala Thr Gly Thr Lys Glu Asn Glu Phe
139             20                  25                  30
142 Gly Lys Pro Ile Val Ala Ile Val Asn Ser Tyr Thr Gln Phe Val Pro
143         35                  40                  45
146 Gly His Val His Leu Lys Asn Val Gly Asp Ile Val Ala Asp Ala Val
147     50                  55                  60
150 Arg Lys Ala Gly Gly Val Pro Lys Glu Phe Asn Thr Ile Val Asp Asp
151 65                  70                  75                  80
154 Gly Ile Ala Met Gly His Gly Gly Met Leu Tyr Ser Leu Pro Ser Arg
155             85                  90                  95
158 Glu Ile Ile Ala Asp Ser Val Glu Tyr Met Val Asn Ala His Thr Ala
159             100                 105                 110
162 Asp Ala Met Val Cys Ile Ser Asn Cys Asp Lys Ile Thr Pro Gly Met
163         115                 120                 125
166 Leu Asn Ala Ala Met Arg Leu Asn Ile Pro Val Val Phe Val Ser Gly
167     130                 135                 140
170 Gly Pro Met Glu Ala Gly Lys Ala Val Val Val Glu Arg Val Ala His
171 145                 150                 155                 160
174 Ala Pro Thr Asp Leu Ile Thr Ala Ile Ser Ala Ser Ala Ser Asp Ala
175             165                 170                 175
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178 Val Asp Asp Ala Gly Leu Ala Ala Val Glu Arg Ser Ala Cys Pro Thr
179         180                 185                 190
182 Cys Gly Ser Cys Ser Gly Met Phe Thr Ala Asn Ser Met Asn Cys Leu
183         195                 200                 205
186 Thr Glu Ala Leu Gly Leu Ser Leu Pro Gly Asn Gly Ser Thr Leu Ala
187     210                 215                 220
190 Thr His Ala Ala Arg Arg Ala Leu Phe Glu Lys Ala Gly Glu Thr Val
191 225                 230                 235                 240
194 Val Glu Leu Cys Arg Arg Tyr Tyr Gly Glu Glu Asp Glu Ser Val Leu
195                 245                 250                 255
198 Pro Arg Gly Ile Ala Thr Lys Lys Ala Phe Glu Asn Ala Met Ala Leu
199                 260                 265                 270
202 Asp Met Ala Met Gly Gly Ser Thr Asn Thr Ile Leu His Ile Leu Ala
203         275                 280                 285
206 Ala Ala Gln Glu Gly Glu Val Asp Phe Asp Leu Ala Asp Ile Asp Glu
207     290                 295                 300
210 Leu Ser Lys Asn Val Pro Cys Leu Ser Lys Val Ala Pro Asn Ser Asp
211 305                 310                 315                 320
214 Tyr His Met Glu Asp Val His Arg Ala Gly Arg Ile Pro Ala Leu Leu
215                 325                 330                 335
218 Gly Glu Leu Asn Arg Gly Gly Leu Leu Asn Lys Asp Val His Ser Val
219         340                 345                 350
222 His Ser Asn Asp Leu Glu Gly Trp Leu Asp Asp Trp Asp Ile Arg Ser
223         355                 360                 365
226 Gly Lys Thr Thr Glu Val Ala Thr Glu Leu Phe His Ala Ala Pro Gly
227     370                 375                 380
230 Gly Ile Arg Thr Thr Glu Ala Phe Ser Thr Glu Asn Arg Trp Asp Glu
231 385                 390                 395                 400
234 Leu Asp Thr Asp Ala Ala Lys Gly Cys Ile Arg Asp Val Glu His Ala
235             405                 410                 415
238 Tyr Thr Ala Asp Gly Gly Leu Val Val Leu Arg Gly Asn Ile Ser Pro
239         420                 425                 430
242 Asp Gly Ala Val Ile Lys Ser Ala Gly Ile Glu Glu Glu Leu Trp Asn
243         435                 440                 445
246 Phe Thr Gly Pro Ala Arg Val Val Glu Ser Gln Glu Glu Ala Val Ser
247     450                 455                 460
250 Val Ile Leu Thr Lys Thr Ile Gln Ala Gly Glu Val Leu Val Val Arg
251 465                 470                 475                 480
254 Tyr Glu Gly Pro Ser Gly Gly Pro Gly Met Gln Glu Met Leu His Pro
255             485                 490                 495
258 Thr Ala Phe Leu Lys Gly Ser Gly Leu Gly Lys Lys Cys Ala Leu Ile
259         500                 505                 510
262 Thr Asp Gly Arg Phe Ser Gly Gly Ser Ser Gly Leu Ser Ile Gly His
263         515                 520                 525
266 Val Ser Pro Glu Ala Ala His Gly Gly Val Ile Gly Leu Ile Glu Asn
267     530                 535                 540
270 Gly Asp Ile Val Ser Ile Asp Val His Asn Arg Lys Leu Glu Val Gln
271 545                 550                 555                 560
274 Val Ser Asp Glu Glu Leu Gln Arg Arg Arg Asp Ala Met Asn Ala Ser
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Input Set : A:\914,006sl.txt
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278 Glu Lys Pro Trp Gln Pro Val Asn Arg Asn Arg Val Val Thr Lys Ala
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286 Arg Gln Val Asp
287     610
290 <210> SEQ ID NO: 3
291 <211> LENGTH: 2164
292 <212> TYPE: DNA
293 <213> ORGANISM: Corynebacterium glutamicum
295 <400> SEQUENCE: 3
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300 agtttctaag gcaactgcaa cgaggtattt tagaactctc cgagaaatgg aattagttca    180
302 cgaggtcagc aaacgcccctt tgcggtttgc gctcacggat aaaggtcgtg agatagtagg    240
304 tcttgaggta aaaatttgac tccataacga gaacttaatc gagcaacacc cctgaacagt    300
306 gaatcaaatc ggaatttatt tattctgagc tggtcatcac atctatactc atgcccatgt    360
308 caggcattga tgcaaagaaa atccgcaccc gtcatttccg cgaagctaaa gtaaacggcc    420
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318 cggtggagtc cgcgatccgg gtcatgcgtg aaacgggtgc ggctgcggtg aagatcgagg    720
320 gtggcgtgga gatcgcgcag acgattcgac gcattgttga tgctggaatt ccggttgtcg    780
322 gccacatcgg gtacaccccg cagtccgagc attccttggg cggccacgtg gttcagggtc    840
324 gtggcgcgag ttctggaaag ctcatcgccg atgcccgcgc gttggagcag gcgggtgcgt    900
326 ttgcggttgt gttggagatg gttccagcag aggcagcgcg cgaggttacc gaggatcttt    960
328 ccatcaccac tatcggaatc ggtgccggca atggcacaga tgggcaggtt ttggtgtggc   1020
330 aggatgcctt cggcctcaac cgcggcaaga agccacgctt cgtccgcgag tacgccacct   1080
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338 acacgcctcg ttggttaaag cagcacgcgc tgaaaacgac actgttgtag ccagtatttt   1320
340 tgtcaatccc ctgcagtttg aagcactcgg tgattgcgat gattaccgca actatccccg   1380
342 ccaactcgac gccgatttag cactgcttga agaggcaggt gtggatattg tgttcgcacc   1440
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346 cggaacaaaa ttggagggtg ccagcaggcc tggccatttc gatggtgtgg ctaccgtggt   1560
348 ggcgaagctg ttcaatttgg tgcgccctga tcgtgcatat tttggacaaa aagatgctca   1620
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356 aaaagcagct ggtgaagcgc tagatatcca aggtgcgcgc gacaccttgg ccagcgccga   1860
358 cggcgtgcgc ttggatcacc tggaaattgt cgatccagcc accctcgaac cattagaaat   1920
360 cgacggcctg ctcacccaac cagcgttggt ggtcggcgcg attttcgtgg ggccggtgcg   1980
362 gttgatcgac aatatcgagc tctagtacca accctgcgtt gcagcacgca gcttcgcata   2040
364 acgcgtgctc agctcagtgt ttttaggtgc gcggtgcgga tcggaaccgg gagttggcca   2100
366 ctgcggtggc gtggcctcac ccgacagcgc ccatgccgcc tgacgagctg cacccaacgc   2160
368 caca                                                                 2164
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Input Set : A:\914,006sl.txt
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371 <210> SEQ ID NO: 4
372 <211> LENGTH: 271
373 <212> TYPE: PRT
374 <213> ORGANISM: Corynebacterium glutamicum
376 <400> SEQUENCE: 4
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382 Arg Glu Ala Lys Val Asn Gly Gln Lys Val Ser Val Leu Thr Ser Tyr
383             20                  25                  30
386 Asp Ala Leu Ser Ala Arg Ile Phe Asp Glu Ala Gly Val Asp Met Leu
387             35                  40                  45
390 Leu Val Gly Asp Ser Ala Ala Asn Val Val Leu Gly Arg Asp Thr Thr
391     50                  55                  60
394 Leu Ser Ile Thr Leu Asp Glu Met Ile Val Leu Ala Lys Ala Val Thr
395 65                  70                  75                  80
398 Ile Ala Thr Lys Arg Ala Leu Val Val Val Asp Leu Pro Phe Gly Thr
399             85                  90                  95
402 Tyr Glu Val Ser Pro Asn Gln Ala Val Glu Ser Ala Ile Arg Val Met
403             100                 105                 110
406 Arg Glu Thr Gly Ala Ala Ala Val Lys Ile Glu Gly Gly Val Glu Ile
407         115                 120                 125
410 Ala Gln Thr Ile Arg Arg Ile Val Asp Ala Gly Ile Pro Val Val Gly
411     130                 135                 140
414 His Ile Gly Tyr Thr Pro Gln Ser Glu His Ser Leu Gly Gly His Val
415 145                 150                 155                 160
418 Val Gln Gly Arg Gly Ala Ser Ser Gly Lys Leu Ile Ala Asp Ala Arg
419             165                 170                 175
422 Ala Leu Glu Gln Ala Gly Ala Phe Ala Val Val Leu Glu Met Val Pro
423             180                 185                 190
426 Ala Glu Ala Ala Arg Glu Val Thr Glu Asp Leu Ser Ile Thr Thr Ile
427         195                 200                 205
430 Gly Ile Gly Ala Gly Asn Gly Thr Asp Gly Gln Val Leu Val Trp Gln
431     210                 215                 220
434 Asp Ala Phe Gly Leu Asn Arg Gly Lys Lys Pro Arg Phe Val Arg Glu
435 225                 230                 235                 240
438 Tyr Ala Thr Leu Gly Asp Ser Leu His Asp Ala Ala Gln Ala Tyr Ile
439             245                 250                 255
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443             260                 265                 270
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447 <211> LENGTH: 279
448 <212> TYPE: PRT
449 <213> ORGANISM: Corynebacterium glutamicum
451 <400> SEQUENCE: 5
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457 His Lys Ser Val Gly Leu Val Pro Thr Met Gly Ala Leu His Ser Gly
458             20                  25                  30
461 His Ala Ser Leu Val Lys Ala Ala Arg Ala Glu Asn Asp Thr Val Val
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**VERIFICATION SUMMARY**                         DATE: 03/27/2003
PATENT APPLICATION:  **US/09/914,006D**          TIME: 12:10:05

Input Set : **A:\914,006sl.txt**
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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date